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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,154	10/18/2001	Brian E. Gorrell	3030-69081	7528

23643 7590 03/12/2003

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EXAMINER

MAYO III, WILLIAM H

ART UNIT	PAPER NUMBER
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2831

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/982,154

Examiner

William H. Mayo III

Applicant(s)

GORRELL, BRIAN E.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see response, filed January 13, 2003, with respect to the rejection(s) of claim(s) 1-10, 13-14, 17, and 19-20 under 35 USC 102(b) and claims 11-12, 15, and 18 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Dinzen et al (Pat Num 5,250,755).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hastings et al (Pat Num 4,576,827, herein referred to as Hastings) in view of Dinzen et al (Pat Num 5,250,755, herein referred to as Dinzen). Hastings discloses a high voltage cable (Figs 1-9) utilized in a spray system. Specifically, with respect to claim 1, Hastings discloses a high voltage cable (Fig 9) including a fiber core (200, Col 14, lines 46-48), a first layer (202) of an electrically relatively non-insulative polymer (Col 14, lines 49-50), a second layer (204) of an electrically relatively non-conductive polymer (Col 15, lines 5-8), a fourth layer (206) including a metal braid shield (Col 15,

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lines 14-16), and a fifth layer (210) including a relatively solvent- and abrasive-resistant polymer jacket (Col 15, lines 20-21). With respect to claim 2, Hastings discloses that the fiber core (200) includes a stranded fiber polyester core (i.e. Dacron, Col 14, lines 46-48). With respect to claims 9-10, Hastings discloses that the second layer (204) may include a layer of non-conductive layer of low-density polyethylene (Col 15, lines 5-7). With respect to claim 17, Hastings discloses that the metal braid shield (206) includes a metal braid covering between about 100% of the outside surface of the second layer (204) of electrically relatively insulative polymer (Fig 9). With respect to claim 19, Hastings discloses that the polymer jacket (210) includes a flexible polyurethane jacket (Col 15, lines 19-20). With respect to claim 18, Hastings discloses that the fourth layer (206) including a metal braid shield has a pitch (Fig 9). With respect to claim 20, Hastings discloses that cable (Fig 1a) is in combination with a high magnitude electrostatic potential supply (16a), a device (spray gun) for the electrostatically aided atomization and dispensing of a coating material (Col 7, lines 20-30), a source (4a) of the coating material coupled to the device (spray gun), and wherein the high voltage cable (16) is coupled to the potential supply (16a) to the device (spray gun, Col 7, lines 59-64).

However, Hastings doesn't necessarily disclose a third layer of an electrically relatively non-insulative polymer being between the insulative and braided materials (claim 1), nor the third layer being PVC (claim 11), nor the PVC layer being a spirally wrapped (claims 12-13), nor the metal braid shield being a copper containing braid shield (claim 14), nor the metal braid comprising tin (claim 15), nor the braided shield

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comprising a tin containing braid shield (claim 16), nor the nor the fourth braided layer surrounding the third layer of conductive material (claim 17), nor the pitch of the braid shield being between 0-20° to a perpendicular to the longitudinal extent of the cable (claim 18).

Dinzen teaches a high voltage cable (Figs 1-2) having a configuration that is known in the art of cables (Col 4, lines 30-65) for carrying high voltages without damaging the cable itself (Col 1, lines 7-13). Specifically, with respect to claims 1 & 17, Dinzen teaches a conventional cable (Fig 1a) comprising a core (1) surrounded by a first layer conductive sleeve (2), a second layer high voltage insulative sleeve (3) surrounding the first layer conductive sleeve (2), a third layer conductive sleeve (4) surrounding the second layer high voltage sleeve (3), a fourth layer of braided wires (5) surrounding the third layer conductive sleeve (4), and an outer casing of PVC (6) surrounding the fourth layer of braided wires (5, Col 4, lines 30-50). With respect to claims 11-12, Dinzen teaches that the third layer of conductive material (4) extending between the second layer of insulative material (3) and the fourth layer of braided conductive material (5), may be made of an synthetic resin, such as embedded PVC (Col 1, lines 50-58). With respect to claim 14, Dinzen teaches that the braided shield (5) is made of copper wires (Col 4, lines 60-62).

With respect to claims 1, 14, & 17, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable configuration of Hastings to comprise a third layer of conductive polymer material extending between the second layer of insulative material and a fourth layer of braided

material and copper braided shield as taught by Dinzen because Dinzen teach that such a configuration is a conventional high voltage cable configuration and provides for carrying high voltages without damaging the cable itself (Col 1, lines 7-13) .

With respect to claims 12-13 and 15-16, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the cable of modified Hastings to comprise the layer to be a spirally wrapped PVC and copper-tin braided shield, since it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With respect to claim 18, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the fourth layer of conductive braided shield to comprise a pitch of the braid shield to be between 0-20° to a perpendicular to the longitudinal extent of the cable, since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835.

4. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hastings (Pat Num 4,576,827) in view of Dinzen et al (Pat Num 5,250,755, herein referred to as modified Hastings), as applied to claim 1 above, further in view of Hastings et al (Pat Num 4,739,935, herein referred to as Hastings2). Modified Hastings discloses a high voltage cable (Figs 1-9) utilized in a spray system as described above with respect to claim 1. Specifically, with respect to claims 3-6, modified Hastings (see

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Hastings) discloses that the fiber core (200) is impregnated with silicon carbide fibers (abstract). With respect to claims 7-8, modified Hastings (see Hastings) discloses that the first layer of electrically relatively non insulative polymer is made of semiconductive polypropylene loaded with carbon black (Col 14, lines 49-50). With respect to claims 14-16, modified Hastings discloses a fourth layer is a metal braid shield (Col 15, lines 14-15).

However, modified Hastings doesn't necessarily disclose the fiber core being impregnated to increase its bulk conductivity (claims 3 & 5), nor the fiber core being impregnated with carbon black (claims 4 & 6).

Hastings2 teaches a high voltage cable (Figs 1-3) utilized in a spray system, that eliminates the possibly of having corona inducing voids or spaces between the carbon loaded sheath and the outer dielectric layers, thereby eliminating the possibly of cable failure (Col 2, lines 27-42). Specifically, with respect to claim 3, Hastings2 teaches that the fiber core (42) is impregnated to increase its bulk conductivity (i.e. silicone carbide). With respect to claim 4, Hastings2 teaches that the fiber core (42) is impregnated with carbon black (i.e. silicon carbide). With respect to claim 5, Hastings2 teaches that the fiber core (42) is impregnated to increase its bulk conductivity. With respect to claim 6, Hastings2 teaches that the fiber core (42) is impregnated with carbon black (i.e. silicon carbide). With respect to claim 7, Hastings2 teaches that the first layer (202) includes a layer of semiconductive polyethylene (Col 14, lines 50-55). With respect to claim 8, Hastings2 teaches that the first layer (44) includes a layer of semiconductive

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polyethylene that includes a layer of carbon black-loaded polyethylene (Col 4, lines 50-55).

1. With respect to claims 3-8, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of modified Hastings to comprise the material configuration as taught by Hastings2 because Hastings2 teaches that such a configuration eliminates the possibility of having corona inducing voids or spaces between the carbon loaded sheath and the outer dielectric layers, thereby eliminating the possibility of cable failure (Col 2, lines 27-42) and since it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Response to Arguments

5. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Tipple et al (Pat Num 4,584,431), Cornelius et al (Pat Num 4,499,438), and Yamazaki et al (JP Pat Num 10-289778), all of which disclose high voltage cables.

7. Based on the new rejection, this action is non-final.

Communication

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (703) 306-9061. The examiner can normally be reached on M-F 8:30am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'William H. Mayo III', is written over a horizontal line.

WHM III
March 4, 2003